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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,184	12/31/2003	Richard L. Franklin	ARC-1001USCON1	4994
21302 7590 03/01/2010 KNOBLE, YOSHIDA & DUNLEAVY EIGHT PENN CENTER SUITE 1350, 1628 JOHN F KENNEDY BLVD PHILADELPHIA, PA 19103				
EXAMINER				
LUCAS, ZACHARIAH				
ART UNIT		PAPER NUMBER		
1648				
MAIL DATE		DELIVERY MODE		
03/01/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/750,184

**Applicant(s)**

FRANKLIN, RICHARD L.

**Examiner**

Zachariah Lucas

**Art Unit**

1648

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 142-153 and 157-164 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 142-153 and 157-164 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 142-153, and 157-164 are pending and under consideration in the application.
2. In the prior action, mailed on June 12, 2009, these claims were pending and rejected in the application.
3. In the Response of December 11, 2009, the applicant amended claims 142 and 159.

#### ***Priority***

4. **(Prior Objection- Withdrawn)** Applicant's claims for priority to prior applications 08/338,501 (and thus to PCT/SE93/00455) is acknowledged.

However, the claim for priority was objected to on two grounds. In view of the amendments and arguments presented by the Applicant, the objection is withdrawn.

#### ***Claim Rejections - 35 USC § 102***

5. **(Prior Rejection- Withdrawn)** Claims 142-148, 150-153, 157-164 were rejected under 35 U.S.C. 102(b) as being anticipated by Lindblom et al. (WO 93/24142). In view of the withdrawal of the objections to the priority claim, the rejection is withdrawn.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **(Prior Rejection- Withdrawn)** Claim 149 was rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lindblom (*supra*). In view of the withdrawal of the objections to the priority claim, the rejection is withdrawn.

8. **(Prior Rejection- Maintained)** Claims 142-153, and 157-164 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ratcliff (U.S. Patent 4,837,009), in view of Hellgren (U.S. Patent 4,963,491- of record in the IDS of September 2006) and Karlstam (EP 0257003). The amendments to the claims are noted. However, the amendments do not appear to change the substance of the claimed methods. Applicant presents new arguments in traversal of the rejection.

The first argument in traversal of the rejection is an assertion that the cited references do not teach a method for removing plaque. This has previously been admitted. However, as the rejection is an obviousness rejection, based on what would have been obvious from the combination of the references, rather than what was specifically disclosed in any one specific reference, the argument is not found persuasive.

It is noted that the majority of the arguments presented by the Applicant are directed to the teachings of individual references, and not what would have been obvious based on the combined teachings of the cited art. It has been established that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*,

800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). These arguments are therefore not found persuasive.

The second assertion by the Applicant is that there would have been no motivation to combine the cited references. The argument is not found persuasive as Hellgren indicates that krill enzymes may be used for the cleaning of teeth, and as the combined teachings of Hellgren, Karlstam, and Ratcliff indicate that the krill enzymes are enzymes that target the compounds forming the plaque agglutination matrix. The combined teachings in the art therefore indicate that the krill enzymes would at the very least be capable of inhibiting further growth of plaque. As the application of the enzymes for this purpose would inherently also result in the breakdown of existing plaque, the teachings of the art render the claimed invention obvious for the reasons of record.

Applicant asserts that a critical feature of the compound disclosed by Ratcliff is its small size. Response, page 9. However, the Applicant presents no evidence of this, and provides no evidence in support of their assertion that those of ordinary skill in the art would have expected that the krill enzymes would not have been able to reach, and therefore act upon, the plaque mass such that it could break down the compounds of the agglutination matrix.

Applicant's assertions regarding the breaking down of the sulphide bonds of the sulphated glycosaminoglycans are noted, but are not found persuasive for the reasons indicated on page 6 of the action mailed in June of 2009.

Applicant's arguments regarding the expectation of success are noted. However, for at least the reasons presented on page 9 of the action of January 2008, and pages 5-7 of the June 2009 action, and as the Applicant provides no specific evidence to support the assertion that those of ordinary skill in the art would not have expected the enzymes present in the krill extracts, identified by the teachings of the art as targeting the compounds present in the plaque agglutination matrix, to be capable of breaking down these components, and thus the matrix, the Applicant's arguments are not found persuasive.

Applicant's remarks regarding the teachings of the references individually are also not found persuasive for the reasons indicated above (i.e., such arguments are not found persuasive where the rejection is based upon what would have been obvious from the combined teachings of a plurality of references).

The rejection is therefore maintained for the reasons above, and the reasons of record.

### ***Conclusion***

9. No claims are allowed.
10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachariah Lucas whose telephone number is (571)272-0905. The examiner can normally be reached on Monday-Friday, 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Nolan can be reached on 571-272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachariah Lucas/  
Primary Examiner, Art Unit 1648